

to that between the posterior ones, and the frontal cavity much broader than high.

Until lately, known from a single specimen obtained in Labrador by Audubon, the ornithologist, and now preserved in the British Museum. There is, however, a specimen in the collection of the Smithsonian Institution from St. Augustine, Florida, whence it was sent by Dr. J. M. Laing, U. S. A.

The relations of the North American genera to the other members of the families in question will be exhibited in the subsequent notes.

NOTE ON THE ANTENNARIIDÆ.

By THEODORE GILL.

The relations of the only known North American representative of the family of Antennariids to the other members of the family is exhibited in the following analytical synopsis, which is essentially the same as that published by the author in 1863. In the present synopsis, however, the most generalized forms (or those supposed to be such) are placed first and followed by those successively more aberrant or specialized. The two species hitherto retained under the generic designation *Brachionichthys* are also differentiated as distinct generic types. Dr. Lütken has recently expressed the opinion that *Pterophryne* and *Histiophryne* appear to be congeneric, but they really seem to be not even closely related.

- 1a. Head compressed; the rostral spine or tentacle as well as two other robust spines developed; soft dorsal well developed.
- 2a. Body oblong claviform; mouth comparatively small; palate unarmed; second and third spines approximated and well connected by membrane and forming a fin; pelvic bones short.....BRACHIONICHTHYINÆ.
- 3a. First dorsal spine connected with second, and third with soft dorsal fin by an incised membrane.....*Symptericthys*.
- 3b. First dorsal spine free from second, and third from soft dorsal fin.
Brachionichthys.
- 2b. Body oval, with tumid abdomen; mouth quite large; palate armed with teeth; second and third spines distant and not at all or scarcely connected; pelvic bones elongated.....ANTENNARIINÆ.
- 3a. First and second dorsal spines disconnected; the first filamentous, with tentacle at end.
- 4a. D. 12, A. 7. Caudal peduncle free; skin smooth or scarcely granular; mouth oblique; wrists and pectorals slender; ventrals elongated; dorsal spines free from membrane; dorsal fin more than half as long as body; anal extended downward.....*Pterophryne*.
- 4b. D. 12, A. 7—8. Caudal peduncle free; skin rough with spines; mouth vertical; wrists and pectorals widened; ventrals short; 3d dorsal spine partly immersed in skin; dorsal fin less than half as long as body; anal oblong.....*Antennarius*.

- 4c. D. 15, A. 8. Caudal peduncle with dorsal and anal attached by membrane; skin smooth; mouth vertical; dorsal spines scarcely exerted from skin *Histiophryne*.
- 3b. First and second dorsal spines connected; the first slender, but rigid, and with tentacle at end *Saccarius*.
- 1b. Head cuboid; a rostral spine or tentacle only developed; soft dorsal low.

CHAUNACINÆ.

Chaunax.

The references to the original descriptions of these genera, as well as to their typical species and habitats, are indicated in the following enumeration:—

BRACHIONICHTHYINÆ.

SYMPTERICHTHYS.

Sympterichthys, *Gill*, Proc. U. S. Nat. Mus., v. 1, p. 222, 1878.

Type: *Sympterichthys lævis* = *Lophius lævis* *Lac*.

Sea near Van Diemen's Land.

BRACHIONICHTHYS.

Brachionichthys, *Bleeker*, Natuurk. Tijdschr. Nederl. Ind., t. 7, p. 121, 1854.

Type: *Brachionichthys hirsutus* = *Lophius hirsutus* *Lac*.

Sea near Van Diemen's Land.

ANTENNARIINÆ.

PTEROPHRYNE.

Pterophryne, *Gill*, Proc. Acad. Nat. Sc. Phila., [v. 15,] p. 90, 1863.

Type: *Pterophryne histrio* = *Lophius histrio* *Linn*.

Tropicalia and warm streams in floating seaweeds.

ANTENNARIUS.

Antennarius, *Commerson*, *Lacépède*, Hist. Nat. des Poissons, t. 1, p. 421, 1798.

Les *Chironectes* (*Antennarius*), *Curier*, Règne Animal, 1^e éd., t. 2, p. 310, 1817.

Chironectes, *Curier*, Mém. Mus. d'Hist. Nat., t. 3, p. 418, 1817 (not Illiger).

Type: *Antennarius chironectes* *Comm*.

Tropicalia, in coral groves chiefly.

HISTIOPHRYNE.

Histiophryne, *Gill*, Proc. Acad. Nat. Sc. Phila., [v. 15,] p. 90, 1863.

Type: *Histiophryne Bongainvillii* = *Chironectes Bongainvillii* *Cur. & Val*.

Unknown.

SACCARIUS.

Saccarius, *Günther*, Cat. Fishes in Brit. Mus., v. 3, p. 183, 1861.

Type: *Saccarius lineatus* *Gthr*.

Sea off New Zealand.

CHAUNACINÆ.

CHAUNAX.

Channax, *Lowe*, Trans. Zool. Soc. London, v. 3, p. 339, 1846-49.

Type: *Channax pictus* *Lowe*.

Atlantic Ocean off the island of Madeira.